Department of Mathematics and Statistics
Concordia University

MATH 251/Lec A
Linear Algebra I
Fall 2014

Instructor: Dr. E. Cohen, Office: LB 921-1 (SGW), Phone: 848-2424, Ext. 3219
Email: elie.cohen@concordia.ca

Text: *Linear Algebra*, 4th Edition, by S. Friedberg, A. Insel, L. Spence, (Prentice Hall).

Assignments: You will be required to hand in weekly assignments. They reflect the content of the course. No late assignments will be accepted. Solutions will be posted at the Digital Store (LB-115).

Class Test: There will be one class test in the seventh week of classes, covering the first five weeks of the course. There will be no make-up test.

Final Grade: The final examination will be three hours long. It will cover material from the entire course.

Grading: Your final grade is the maximum of the final examination grade counted as 100%, and a grade computed by adding 60% of your mark on the final examination to your class test 30%, and your assignments 10%.

Calculators: Only calculators approved by the Department are permitted in the class test(s) and final examination. The calculators are the **Sharp EL 531** and the **Casio FX 300MS**, available at the Concordia Bookstore.

Week	Section	Topic	Problems
1	1.2, 1.3	Vector Spaces, Subspaces	1.2: 19, 20 1.3: 10, 12, 17
2	1.4, 1.5	Linear Combinations, Systems of Equations Linear Dependence and Independence	1.4: 5(d,f,h) , 6, 12 1.5: 2(b,d,f), 8a, 10
3	1.6	Basis and Dimension	1.6: 3(b,d), 8, 14, 16, 30
4	2.1	Linear Transformations, Null Spaces, Ranges	2.1: 3, 6, 9b, 11, 14
5	2.2	Matrix Representation of Linear Transformation	2.2: 2(b,e), 4, 5(a,d,f), 10
6	2.3	Composition of Linear Transformations, Matrix Multiplication	2.3: 3(a,b), 9, 11, 12c, 13, 15
7		**CLASS TEST**	
8	2.4 2.5	Invertibility and Isomorphisms Change of Coordinate Matrix	2.4: 6, 9, 15, 16, 17 2.5: 2(b,d), 3f, 6(b,d)
9	3.1, 3.2, 3.3	Elementary Matrices, Rank of Matrices, Matrix Inverses, Systems of Equations	3.2: 2f, 4b, 5h, 6(d,f), 20a 3.3: 2d, 3d
10	3.4	Systems of Equations	3.4: 2j, 6*, 8, 10, 12 (*In question 6: Determine A if the first, third and FIFTH columns…)
11	4.4 5.1	Summary about Determinants, Eigenvalues and Eigenvectors	4.4: 3h, 4h 5.1: 2d, 3(b,d), 4(c,d,g), 15(a,b)
12	5.2	Diagonalizability	5.2: 2(b,d,f), 3(b,f), 7, 8, 9
13		**REVIEW**	